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ABSTRACT

The rise of American English as the medium for exhange of scientific and technical information worldwide is a linguistic phenomenon. For some time, applied linguists in Britain have provided texts to meet the demand for English for special purposes and English for science and technology. Their works use a British form of language and cover British applications. Lately, American educators also have entered these fields. Typically, they cover the terms and concepts of a particular profession or trade like engineering or the use of hand tools, and they show model forms of technical communication, including resumes, letters, and reports. Technical English, American style, however, is not essentially professional jargon or simply standard English applied to special purposes. It is a distinct variety of American English with definable semantic features, morphology, and syntax. Its lexicon is delimited, and its phonology is characterized by low-level American phonetic rules. Along with the English writing system, it relies heavily on pictorial representation; and its rhetoric, strongly deductive, has distinguishable characteristics. Precise descriptions, like those provided here, may be useful as an aid in developing and implementing instructional materials in technical English. (Author/AMH)

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What Is Technical English, American Style?

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What Is Technical English, American Style?

Introduction

At the 1978 annual meeting of the American Dialect Society, my paper describing American technical English, from which this article comes, preceded a paper on baby talk and followed one on legal language. While all three topics concern varieties of American English, the sequence seemed especially a propos for a reason I would like to develop: technical English involves highly technical content, conceptually and sometimes terminologically. In this respect it is like legalese. Yet in rhetorical approach, good technical English has a simplicity which permits communication between its writers or speakers and, perhaps like babies, an unsophisticated audience of readers or listeners.

I have used the phrase "good technical English" because I do not want to delimit the analysis of technical English, American style, to a purely descriptive approach. That is, I do not report merely a collection of findings from an examination of extant materials such as textbooks, technical manuals, reports, and documents. The reason is that some of these materials are not necessarily communicating with or successfully teaching interested lay readers and listeners. I concentrate instead on technical English which does communicate and teach. Surely this judgmental approach is a valid way to study varieties of American English because we look not only at their characteristics but also at their roles.

If, then, we are selective in describing technical English as a variety of American language, the following problem arises. Until the nature of technical English is concretely specified in ways which students can replicate, effective instruction in it may be illusive. In connection with this problem, the purpose of my research and report is to show that linguistics, especially dialectology, can furnish the precision and objectivity for delineating technical English as one variety among present-day American dialects.

In doing so, I need first to mention the meanings generally of the terms technical, technical English, and American technical English. In lectures on "What Technical English Is About," Jerome C. Ford, Professor of Technical English at a Mali university, suggests that the term technical describes any professional field which is experiencing a rapid degree of development for the first time in this century (1974:2). When technical refers to a variety of English, Ford proposes that we can define this variety best by opposing it to forms of everyday English, scientific English, or special English. His lectures cite examples of each of these types of English and compare them with examples of technical English as a way of illustrating his definition. In addition, I consider technical English to be oral or written communication in English which is used as a means to some purposeful end.

Ford's delineation for technical English, I think, offers a workable basis on which to superimpose the characterization of a peculiarly American variety. That there is such a cultural variety I hope to demonstrate in the discussion which follows. First I will look at causes for the rise of an American style of technical English and then answer the question posed in the title, "What is technical English, American style?"

Background

Ford (1974:1) lists several reasons for the emergence word-wide of a preference for an American style of technical English. I paraphrase his reasons as follows:

1. Most technical research, invention, publication, and training occur in the United States.
2. The coinage or formulation of neologisms for technological discoveries, processes, and inventions is occurring in American English. Most other languages, instead of translating these new terms, are incorporating them verbatim from American English. Only French, German, and Japanese of all other languages have any significant body of technical terminology of their own.
3. Second-language speakers of English have universally accepted American English as the medium for technical and higher education.

Supplementing Ford's explanations is that of the increasing demand by U. S. business and industry for technical writers on their staffs.

It is important to recognize the distinction between the kind of technical English which has emerged because of the reasons just described and, on the other hand, British technical English. British applied linguists have provided pedagogical materials on technical English for some time. Their works, however, use a British form of language and cover British applications and referents which are often different from American ones. Several London publishers, such as Heinemann's and Longman's, handle numerous texts in an area of study which they call "English for

Science and Technology," or "EST." In addition, various schools in England offering "English for Special Purposes," or "ESP," have been in existence for many years. Among international students of English as a foreign language, however, these materials and programs do not provide what many of them seek: that is, technical English, American style.

This kind of reaction and search has been especially obvious, for instance, in international commerce and the transfer of American technology. In training efforts for establishing an Iranian Helicopter Industry, as one example, the government of Iran had made a deliberate choice of American English as the language for the entire mission. Both in Iran and in Texas at Bell Helicopter-Textron, Iranians were being trained in American technical English until political events halted the project in December, 1978. Similarly, other U. S. firms active within developing nations are disseminating American English as an integral part of carrying on technical projects in countries like Saudi Arabia, Kuwait, and Algeria. Indeed, a profound lesson to come out of the Bell-Iranian experience was that actual transfer of technology must follow acquisition of the company's technical English by native speakers of the country seeking modernization.

On another front, American educators, of late, have entered the field of ESP and EST with instructional materials which typically focus on terms and concepts of a particular trade or profession. Under titles such as Vocational English (Jochen and Shapiro, 1975) and English on the Job (Carlin et al., 1975), American works show model forms of technical communication, including résumés, letters, and report forms. Similarly, Oregon State University has become involved in several EST projects, including training institutes for teachers of technical English, an EST

Clearinghouse, and a monthly newsletter. Along with these continental-U. S. efforts toward EST pedagogy, companies involved in international business are teaching technical English through actual content areas of study. At Bell Helicopter-Textron, for example, training directors and functional area supervisors propose that a trainee for a procurement officer can learn American terms and usage by studying the purchasing manuals and documents used in the procurement department.

These efforts by Americans, however much they are wanted, still are wanting. The reason is that the essence of technical English, American style, is not professional jargon or standard English applied to special purposes. It is, rather, an array of precise features in at least seven linguistic categories. In the ones listed below, categories marked with an asterisk (*) receive emphasis in the succeeding discussion because they seem to offer the most concrete delineations:

* Semantics
Syntax
Morphology
Lexicon
* Phonology
Symbology
* Rhetoric

The Semantics of American Technical English

1. Good technical writing, American style, avoids ambiguity. For example, it strives to eliminate the kind of multiple interpretation possible in a title like Managing Improvement through Work

Simplification (Bell, n.d.). Does the title of this training workbook mean "the improvement of a manager"? Does it mean "directing the improvement (of a company)"? Or does it mean "the manager's role in simplifying work"? Avoiding this kind of ambiguity entails writing a title which more clearly has a single meaning.

2. A comparison is complete. E.g., "Tuesday was warmer (than Monday)."
3. Word choices are denotative.
4. Repetition, parallelism, and anaphora achieve coherence.
5. There is a unity of information, centering on a thesis sentence.
6. Terms generally have these semantic features:

$$\begin{bmatrix} + \text{ concrete} \\ + \text{ count} \\ + \text{ III person} \\ + \text{ definite} \end{bmatrix}$$

7. There is a continued reliance on the English measuring system.
8. Topics and examples of content subjects come from American life and culture.

The Syntax of American Technical English

1. Sentence order is generally a subject + verb + object.
2. There is little recursion.
3. There are few low-level transformations. Thus, there is retention of simple present tense for description. The use of

progressive present tense is limited to narrative reports. Other examples of avoidance of low-level transformations include the use of active voice and declarative statements.

4. Universal, early transformations such as interrogative, negative, and expletive ones are frequent.
5. There is some sentence combining in the form of compound sentences. Elsewhere, though, most sentences are simple and short.

The Morphology of American Technical English

1. Verbs are in active voice.
2. Many verbs consist of a verb plus a particle ("The handle shuts off the flow of current").
3. The formation of new terms frequently results from combining roots and derivational suffixes, e.g., microcomputer from the root compute and the derivational suffix micro-.

The Lexicon of American Technical English

1. American names and spellings serve as sources and representation for new lexical items.
2. American usage is presumed for existing lexical items.
3. There is a careful choice of words which are suitable for the lexicon of a writer's or speaker's audience.
4. There is an avoidance of abbreviations or symbols for terms, except in illustrations, charts, and tables.
5. High-frequency American-English lexical items are prevalent, e.g., part rather than component.

The Phonology of American Technical English

1. A speaker uses voice control of his rate of speaking, volume, and variation of tone so as to suit audience need.
2. There is frequent palatalization of coronal obstruents, e.g., NATURE, INDIVIDUAL.
3. There is glide deletion after coronal obstruents and liquids, e.g., CHEW and BLUE, where a speaker has no glide after CH- and BL-.
4. All unstressed, lax vowels reduce, e.g., RAPID, BENEFIT.
5. All unstressed, tense vowels reduce except where they are prevocalic or final, e.g., COMPOSITION, GRADUATE (noun), INFINITE.

The Symbology of American Technical English

1. There is heavy reliance on pictorial representation.
2. Use of the writing system of English includes use of conventional American spellings.

The Rhetoric of American Technical English

1. Presentations are deductive.
2. Captions for organization and for transitions are prevalent.
3. Conciseness is a primary objective, including limitations on the sheer volume of the verbal language presented.
4. A tone of restraint pervades a technical text. This tone is achieved by
   a. No hyperbole, slang, or strained metaphors;

b. Objective analysis; and

c. Emphasis on facts and on reasoning about facts.

5. Several conventions exist for punctuation and documentation.
6. Familiar terms define unfamiliar terms.
7. Definitions are non-circular.
8. Explanatory techniques include definition, classification, partition, description, comparison, and contrast.
9. There is a consideration for the reader's or listener's point of view.
10. Pronouns like <u>that</u> or <u>which</u> have clear, nominative antecedents.
11. There is an avoidance of idioms, such as "This lesson goes <u>hand in hand</u> with the next one."

Conclusions

A description of American technical English, as the foregoing list, can afford several advantages. For one thing, it can help authors of technical English textbooks to include instruction which is relevant and substantive. A description can also aid in drawing up methodologies for teachers who are training to teach technical English. Such a description can help, too, in the development of courses for international students. By encompassing the areas mentioned above, a technical English course can better help second-language speakers of English with other academic subjects than is presently possible.

Finally, of special interest as virtually an untried application, a precise description of American technical English can be useful to technical instructors and writers in content areas. I refer, for example, to persons

involved with subjects like blueprint-reading or nondestructive testing. By adjusting their writing and platform teaching accordingly, these training personnel may be able to eliminate much present anomaly and ambiguity in the training programs of American business and industry.

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